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United States Patent [19]

Crismore et al.

[11] **Patent Number:** 5,997,817[45] **Date of Patent:** Dec. 7, 1999[54] **ELECTROCHEMICAL BIOSENSOR TEST STRIP**60-173457 9/1985 Japan .
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[52] **U.S. Cl.** 422/58; 422/82.01; 204/403; 324/692; 435/817

[58] **Field of Search** 422/58, 61, 82.01, 422/82.02, 76; 436/63, 149, 150, 151; 204/403, 416; 324/444, 692; 435/817

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[57] **ABSTRACT**

An electrochemical biosensor test strip with four new features. The test strip includes an indentation for tactile feel as to the location of the strips sample application port. The sample application port leads to a capillary test chamber, which includes a test reagent. The wet reagent includes from about 0.2% by weight to about 2% by weight polyethylene oxide from about 100 kilodaltons to about 900 kilodaltons mean molecular weight, which makes the dried reagent more hydrophilic and sturdier to strip processing steps, such as mechanical punching, and to mechanical manipulation by the test strip user. The roof of the capillary test chamber includes a transparent or translucent window which operates as a "fill to here" line, thereby identifying when enough test sample (a liquid sample, such as blood) has been added to the test chamber to accurately perform a test. The test strip may further include a notch located at the sample application port. The notch reduces a phenomenon called "dose hesitation".

32 Claims, 5 Drawing Sheets